

CLAIMS

1. A wax composition comprising on a weight basis: wax esters, 6.2–11%; aldehydes, 2.8–9.5%; tri-glycerides, 0–3%; alcohols, 1.8–44.5%; and, free fatty acids, sterols and polar lipids, 36.8–87.2%.
- 5 2. A process for preparing a wax composition from crude sugar cane wax, the process comprising the steps of:
 - i) heating a solution of the crude wax with a lower alcohol as solvent at the boiling point of the solvent;
 - ii) allowing phase separation of the solution from (i) and decanting 10 the upper phase while hot;
 - iii) allowing the separated phase from (ii) to cool and separating crystallised wax from the solvent;
 - iv) repeating steps (i) to (iii) using the wax from (iii) until all pitch has been removed from the wax;
- 15 v) heating the wax to between 90 and 140°C and oxidising molten wax with oxidising material; and
 - vi) continuing the heating under an inert gas on completion of the oxidation step until intermediate peroxide products are removed.
3. The process according to claim 2, wherein said lower alcohol is 20 ethanol or iso-propanol.
4. The process according to claim 2, wherein said crude wax is combined with solvent at a ratio of 1:8 to 1:20 by weight.
5. The process according to claim 4, wherein said ratio is 1:9.
6. The process according to claim 2 wherein in step (i) said solution is 25 heated for 5 to 60 minutes.
7. The process according to claim 6, wherein said solution is heated for about 30 minutes.
8. The process according to claim 2, wherein in step (iii) said separation is by filtration or centrifugation.
- 30 9. The process according to claim 2, wherein steps (i) to (iii) are repeated from 2 to 5 times.
10. The process according to claim 2, wherein in step (v) said heating is carried out under an oxygen-free gas.

11. The process according to claim 10, wherein said gas is nitrogen.
12. The process according to claim 2, wherein said oxidising material of step (v) is selected from the group consisting of air, oxygen, and mixtures of oxygen, nitrogen and ozone.
- 5 13. The process according to claim 2, wherein in step (v) said oxidation is carried out in the presence of a catalyst.
14. The process according to claim 10, wherein said catalyst is selected from the group consisting of a borate or resinate of cobalt or manganese, ferrous salts, and Fenton's reagent.
- 10 15. The process according to claim 2 comprising the further steps of:
 - vii) heating wax from step (vi) with a lower alcohol as solvent at the boiling point of the solvent with activated carbon present at a wax to carbon ratio of 1:0.5 to 1:3;
 - viii) filtering the molten slurry while hot;
- 15 ix) allowing the recovered wax/solvent mixture to cool and separating crystallised wax therefrom.
16. The process according to claim 2 comprising the further steps of:
 - (vii) heating wax composition from step (vi) with a lower alcohol as solvent at the boiling point of said solvent for 30 to 60 minutes;
 - 20 (viii) allowing phase separation of the solution from (vi) and decanting the upper phase while hot;
 - (ix) allowing the separated upper phase from (viii) to cool and separating crystallised wax from said solvent;
 - (x) heating wax from (ix) in the absence of solvent for 15 minutes to 3 hours; and
 - (xi) repeating steps (vii) to (x) until the desired degree of decolourisation is achieved.
- 25 17. A combustible which includes the wax composition of claim 1.